

ABSTRACT OF THE DISCLOSURE

5 A clock supply select circuit controls supply of receive clock and transmit clock to a receiver and a transmitter. The clock supply select circuit includes a clock generate circuit generating internal clock of the reference, and clock modulate circuit generating a modulate clock signal modulated such that at least one of frequency fluctuation, phase fluctuation, waveform fluctuation and jitter is applied to the internal clock. In a normal operation mode, the internal clock is supplied as receive clock and transmit clock, and in a loopback operation mode, while the internal clock is supplied
10 as receive clock, modulate clock signal is supplied as transmit clock.